भारतीय मानक
Indian Standard

IS 13727 : 2020

गृह प्रबन्ध हेतु गुच्छ योजना की अपेक्षाएँ — मार्गदर्शिका

(पहला पुनरीक्षण)

Requirements of Cluster Planning for Housing — Guide

(First Revision)

ICS 91.020; 91.040

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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Planning, Housing and Prefabricated Construction Sectional Committee had been approved by the Civil Engineering Division Council.

Cluster planning is recognized to be consistent with traditional Indian life style. This has also been an accepted traditional practice all over the world. In the recent years, however cluster planning has been largely neglected. The traditional changes of the modern age which made people more individualistic and self-centered, large city anonymity, loosening of family and community ties, advent of varieties of vehicles and the desire to bring it almost in the house, tended to make cluster planning irrelevant. In the recent years, there has been an upsurge of projects to resettle slum dwellers and provide housing for the urban poor. Several studies have been carried out of spontaneously developed settlements. The virtues of low rise high density development in the context of affordability and incremental growth have been rediscovered. There have been number of innovative projects being developed. The cluster concept has been accepted now as economic necessity and desirable socially to promote desired life style. Cluster planning has proved to be a powerful urban design tool, yet number of conventional byelaw provisions, such as set back and coverage hinder efficient planning based on cluster concept. This standard was therefore first formulated in 1993 to devise guidelines to permit imaginative cluster planning. This standard is intended to serve as a guide for local bodies/authorities to adopt cluster planning for providing low income housing and resettling slum dwellers.

In the present revision, the following major modifications have been made:

a) New terms and their definitions have been incorporated and some of the existing definitions have been modified;
b) The provisions have been aligned with those given for cluster planning in SP 7 : 2016 ‘National Building Code of India 2016’;
c) Requirement for community open space has been added;
d) Provision for off-street parking spaces has been added; and
e) A typical figure for linear cluster development, incremental growth provisioning in cluster planning and high density cluster planning development has been included.

Cluster planning is one of the better options available which provide appropriate physical spaces that are conducive to community life and development. Wherever such planning is adopted, this should be regulated by the provisions recommended in this standard.

The composition of the Committee responsible for formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

REQUIREMENTS OF CLUSTER PLANNING FOR HOUSING — GUIDE

(First Revision)

1 SCOPE

1.1 This standard provides guidelines for the planning and building requirements of housing developed as clusters, by public, private or co-operative agencies.

1.2 SP 7 and IS 8888 (Part 1) are necessary adjuncts to this standard.

2 REFERENCES

The standards given below contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below :

IS No.	*Title*
SP 7 : 2016	National Building Code of India 2016
8888 : 2020	Requirements of low income housing for urban areas — Guide (*second revision*)

3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

3.1 Cluster — Plots or dwelling units or housing grouped around an open space (*see* Fig. 1).

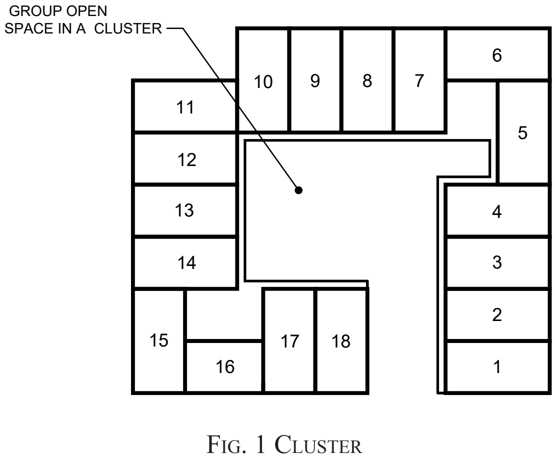


FIG. 1 CLUSTER

3.1.1 *Back to Back Cluster* — Clusters when joined back to back and/or on sides (*see* Fig. 2).

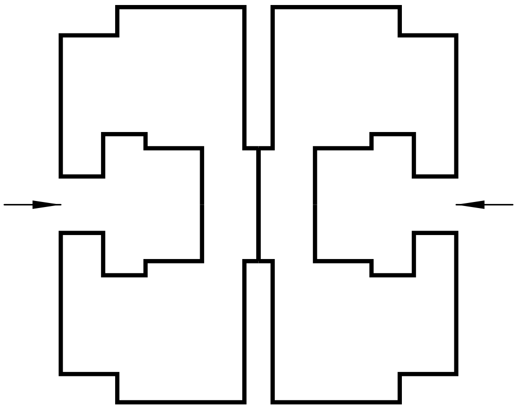


FIG. 2 BACK TO BACK CLUSTER

3.1.2 *Closed Clusters* — Clusters with only one common entry into cluster open space (*see* Fig. 3).

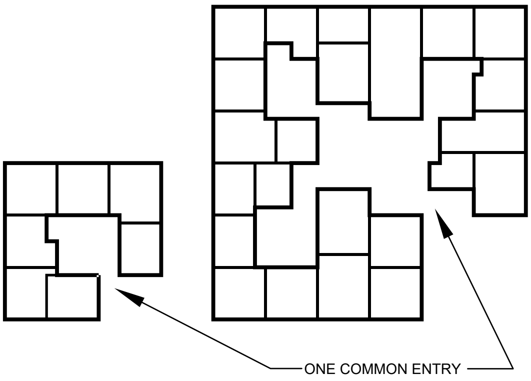


FIG. 3 CLOSED CLUSTER

3.1.3 '*Cul-de-Sac*' Cluster — Plots/dwelling units when located along a pedestrianized or vehicular '*cul-de-sac*' road (*see* Fig. 4).

3.1.4 *Independent Cluster* — Clusters surrounded from all sides by vehicular access roads and/or pedestrian paths (*see* Fig. 5).

3.1.5 *Interlocking Cluster* — Clusters when joined at back and on sides with at least one side of a cluster common and having some dwelling units opening onto or having access from the adjacent clusters.

Dwelling units in such clusters should have at least two sides open to external open space. Houses in an interlocking cluster may have access, ventilation and light from the adjacent cluster and should also cater for future growth (*see* Fig. 6).

3.1.6 *Open Clusters* — Clusters where cluster open spaces are linked to form a continuous open space (*see* Fig. 7).

3.2 Cluster Court Town House — A dwelling in a cluster plot having 100 percent or nearly 100 percent ground coverage with vertical expansion generally limited to one floor only and meant for self use (*see* Fig. 8).

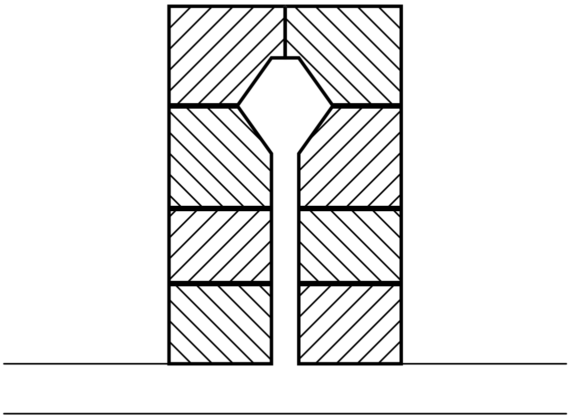


Fig. 4 *Cul-De-Sac* Cluster

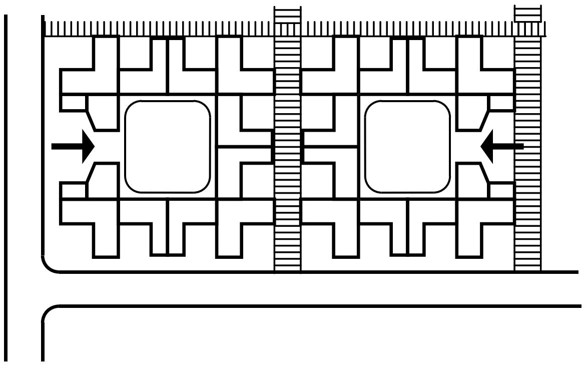


Fig. 5 Independent Cluster

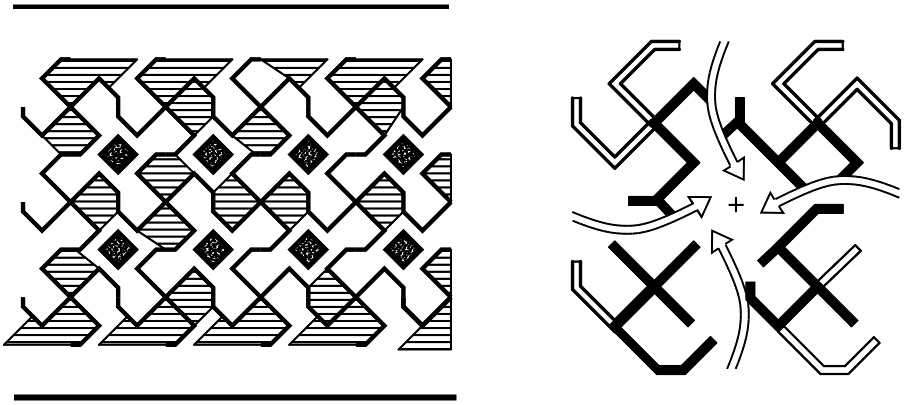


Fig. 6 Interlocking Cluster

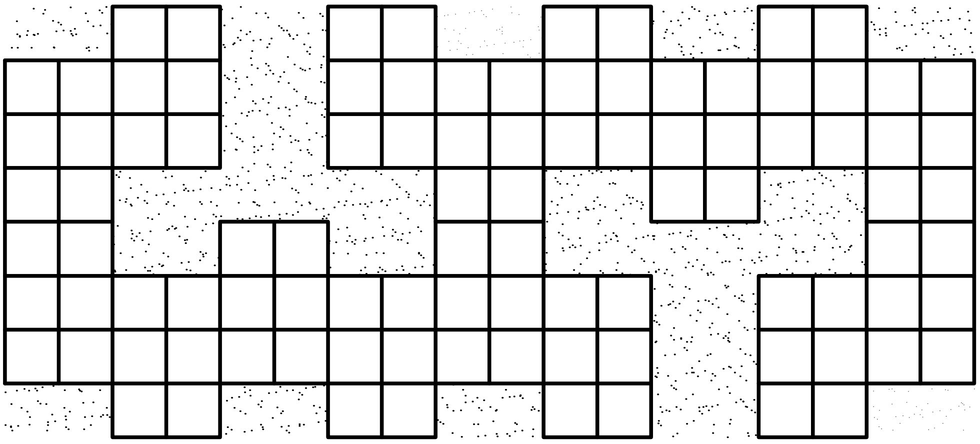


Fig. 7 Open Cluster

3.3 Cluster Plot — Plot in a cluster.

3.4 Density — The residential density expressed in terms of the number of dwelling units per hectare.

NOTE — Where such densities are expressed exclusive of community facilities and provision of open spaces and major roads (excluding incidental open spaces), these will be net residential densities. Where these densities are expressed taking into consideration the required open space provision and community facilities and major roads, these would be gross residential densities at neighbourhood level, sector level or town level, as the case may be. The provision of open spaces and community facilities will depend on the size of the residential community.

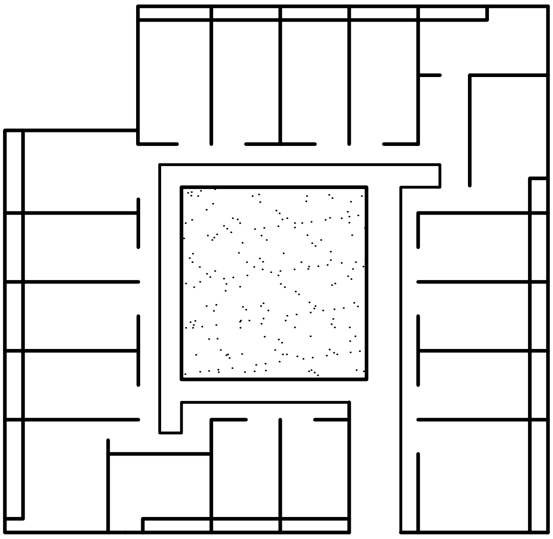


FIG. 8 CLUSTER COURT TOWN HOUSE

Incidental open spaces are mainly open spaces required to be left around and in between two buildings to provide lighting and ventilation.

3.5 External Faces of Cluster — Building edges facing the cluster open spaces.

3.6 Floor Area Ratio (FAR) — The quotient obtained by dividing the total covered area (plinth area) on all floors by the area of the plot.

3.7 Group Housing — Housing for more than one dwelling unit, where land is owned jointly (as in the case of cooperative societies or the public agencies, such as local authorities or housing boards, etc) and the construction is undertaken by one Agency.

NOTE — A typical cluster group housing is shown in Fig. 9

3.8 Group Open Space — Open space within a cluster.

Group open space is neither public open space nor private open space. Each dwelling unit around the cluster open space have a share and right of use in it. The responsibility for maintenance of the same is to be collectively shared by all the dwelling units around.

3.9 Internal Faces of Cluster — Building edges facing the adjacent cluster open space (as in case of interlocking cluster) or the surrounding pedestrian paths or vehicular access roads.

4 PLANNING

4.1 Plot Size

The minimum plot size permissible shall be 15 m^2 with 100 percent ground coverage and an FAR of two. The

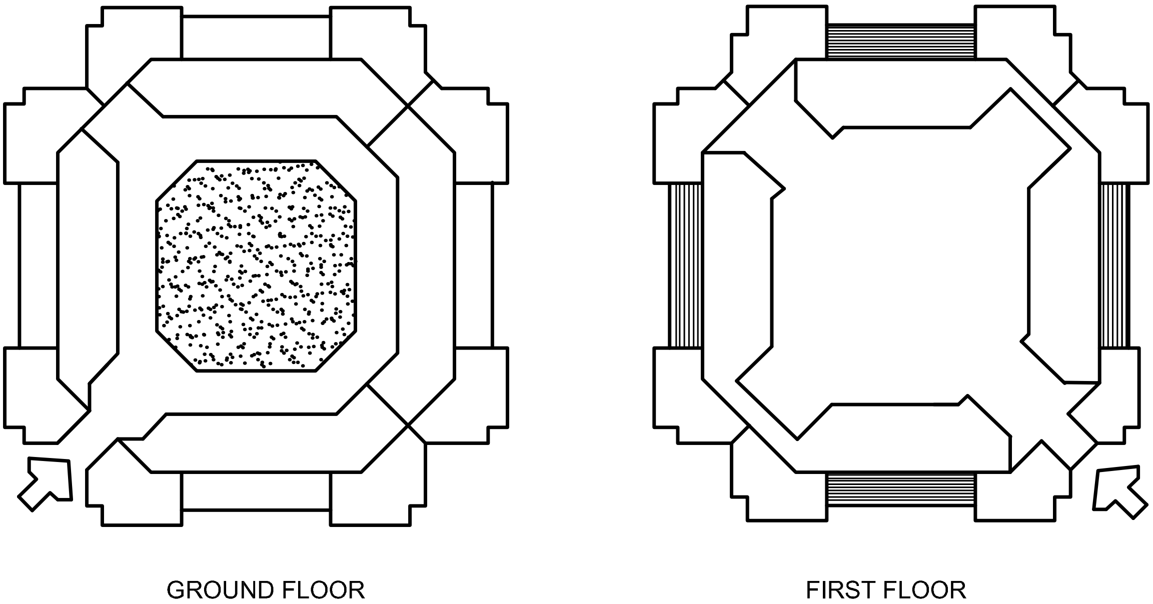


FIG. 9 CLUSTER GROUP HOUSING

above ground coverage and FAR will be applicable up to plot size of 25 m^2. For plot sizes beyond 25 m^2, provision in accordance with IS 8888 shall be applicable.

4.2 Plot/Plinth Area for Slum Resettlement on Same Site

In case of slum resettlement on the same site, minimum area may be reduced to 12.5 m^2 with potential for adding another 12.5 m^2 on first floor with an internal staircase.

4.3 Group Housing

Group housing may be permitted within cluster housing concept. However, dwelling units with plinth areas up to 20 m^2 should have scope for adding a habitable room. Group housing in a cluster should not be more than 15 m in height.

4.4 Size of Cluster

In ground and onestoreyed structures not more than 20 houses should be grouped in a cluster. Clusters with more dwelling units may create problems relating to identity, encroachment and maintenance.

4.5 Size of Cluster Open Space

Minimum dimensions of open spaces shall be not less than 6 m or $\frac{3}{4}$th of the height of buildings along the cluster open space, whichever is higher. The area of such cluster court shall not be less than 36 m^2. Group housing around a cluster open space should not be normally more than 15 m in height. Maximum cluster courtyard width and breadth shall be 13 m.

4.6 Setbacks

No setbacks are needed from the edges of cluster as pedestrian/vehicular access roads surroundthe cluster.

4.7 Right to Build in Sky

Pedestrian paths and vehicular access roads to clusters separating two adjacent clusters may be bridged to provide additional dwelling units. While bridging the pedestrian path way, minimum clearance should be one storey height. While bridging the vehicular access roads, minimum clearance should be 6 m.

4.8 Vehicular Access

A right of way of at least 6 m width should be provided up to the entrance to the cluster to facilitate emergency vehicle movement up to cluster.

4.9 Pedestrian Paths

Minimum width of pedestrian paths shall be 3 m.

4.10 Width of Access between Two Clusters

Built area of dwelling unit within cluster shall have no setbacks from the path or road, space. Hence, the height of the building along the pathway or roads shall be not less than 60 percent of the height of the adjacent building subject to minimum of 3 m in case of pathway and 6 m in case of vehicular access.

4.11 Density

Cluster planning methodologies result in higher densities with low rise structures. With per dwelling unit covered area of 15 m^2, densities of 500 dwelling units per hectare (net) shall be permissible. Densities higher than this should not be allowed.

4.12 Group Toilet

While all efforts should be made to provide one toilet for each dwelling unit, cluster housing for economically weaker section families may have group toilets at the rate of one water-closet, one bath and a washing place for three families. These shall not be community toilets, as keys to these toilets shall be only with these three families, making them solely responsible for the maintenance and upkeep of these toilets.

4.13 Community Open Space

4.13.1 In any layout or sub-division of land measuring 0.3 hectare or more in residential zone, the community open spaces shall be reserved for recreational purposes which shall as far as possible be provided in one place or planned out for the use of the community in clusters or pockets.

4.13.1.1 The community open spaces shall be provided catering to the needs of area of layout, population for which a layout is planned and the category of dwelling units. The following minimum provision shall be made for low income housing based on cluster planning:

a) 15 percent of the area of the layout, or

b) 0.3 hectares/1 000 persons.

4.13.2 No recreational space shall generally be less than 450 m^2.

4.13.2.1 The minimum average dimension of such recreational space shall be not less than 7.5 m; if the average width of such recreational space is less than 24 m, the length thereof shall not exceed 2.5 times the average width. However, depending on the configuration of the site, commonly open spaces of different shapes may be permitted by the Authority, as long as the open spaces provided serve the needs of the immediate community contiguous to the open spaces.

4.13.2.2 In such recreational spaces, a single storeyed structure as pavilion or gymnasia up to 25 m^2 in area may be permitted; such area may be excluded from FAR calculations.

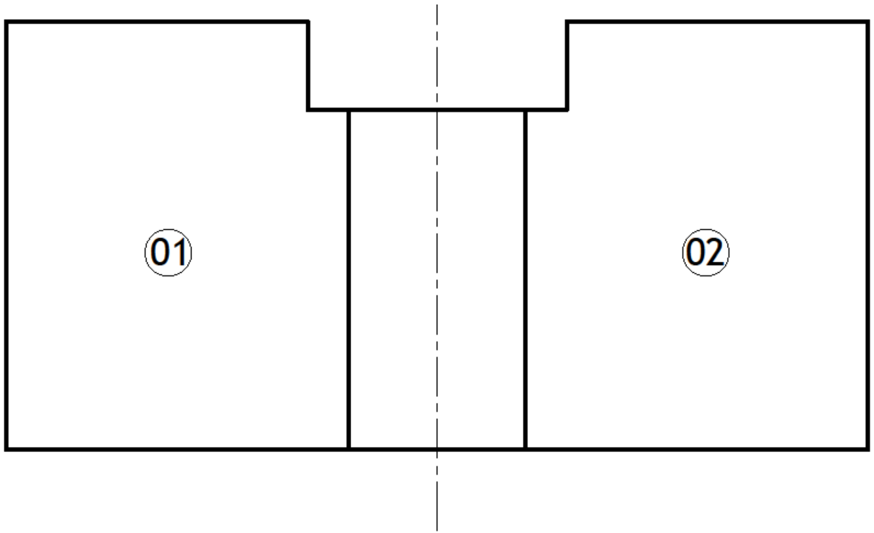
4.13.3 Each recreational area and the structure on it shall have an independent means of access. Independent means of access may not be insisted upon if recreational space is approachable directly from every building in the layout. Further, the building line shall be at least 3 m away from the boundary of recreational open space.

4.14 Off-Street Parking Spaces

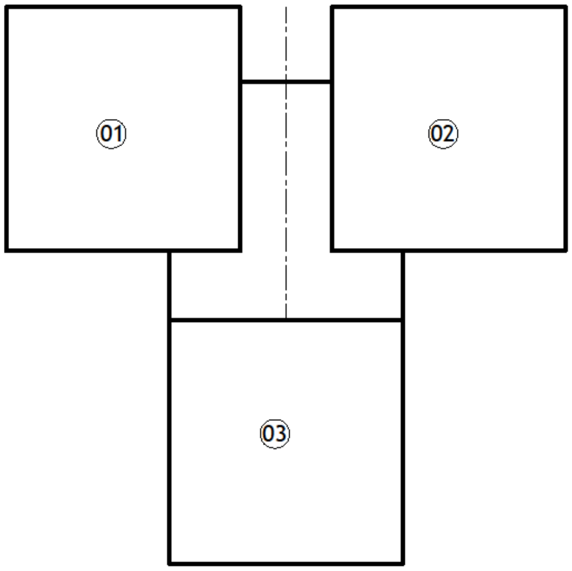
Off-street parking space for motorcycle/scooter/two-wheeler and bicycle not less than 1.25 m^2 and 1.00 m^2, respectively shall be provided at the rate of one for each tenement. Parking space may be provided at community level. In such a case, in addition to the parking space to be provided as above for each tenement, space provisions shall be made for other types of vehicles, such as ambulance and disaster management vehicle, and also for additional spaces required for other vehicles, which shall be as decided by the, keeping in view the nature of traffic generated in the city.

4.15 Typical Plans for Cluster Planning Development

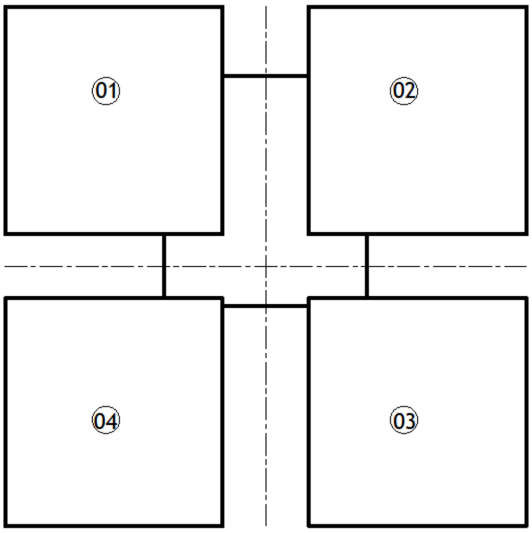
Figure 10 gives typical plans of cluster planning development showing built space variation in linear cluster development option.



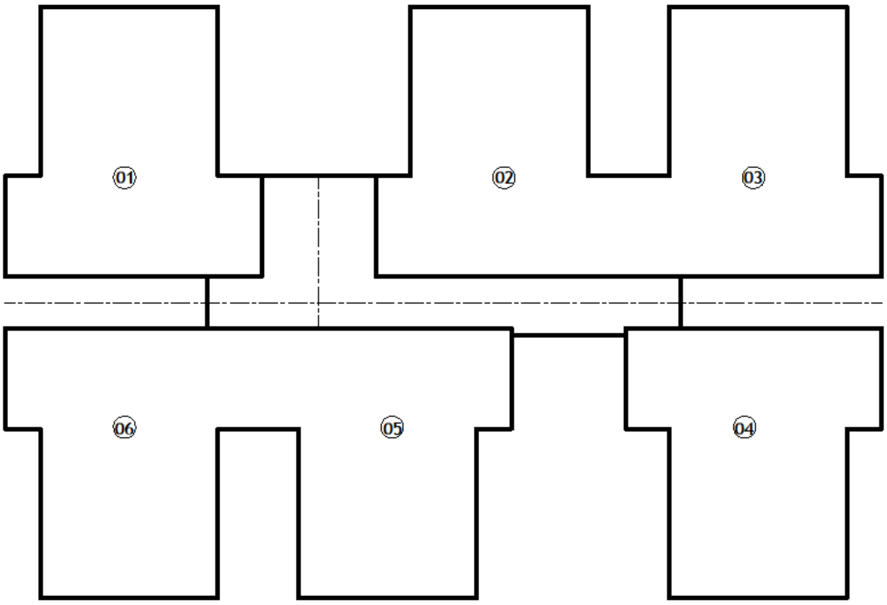
10A CLUSTER OF 02 UNITS



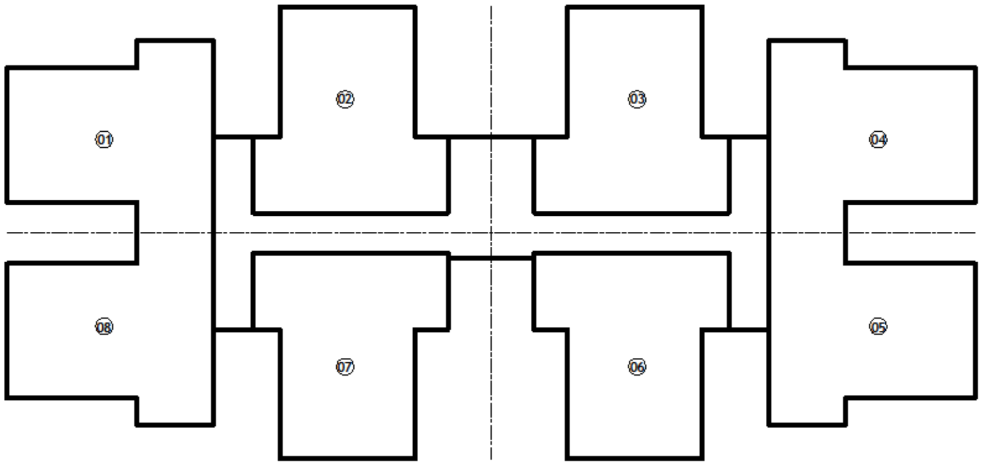
10B CLUSTER OF 03 UNITS



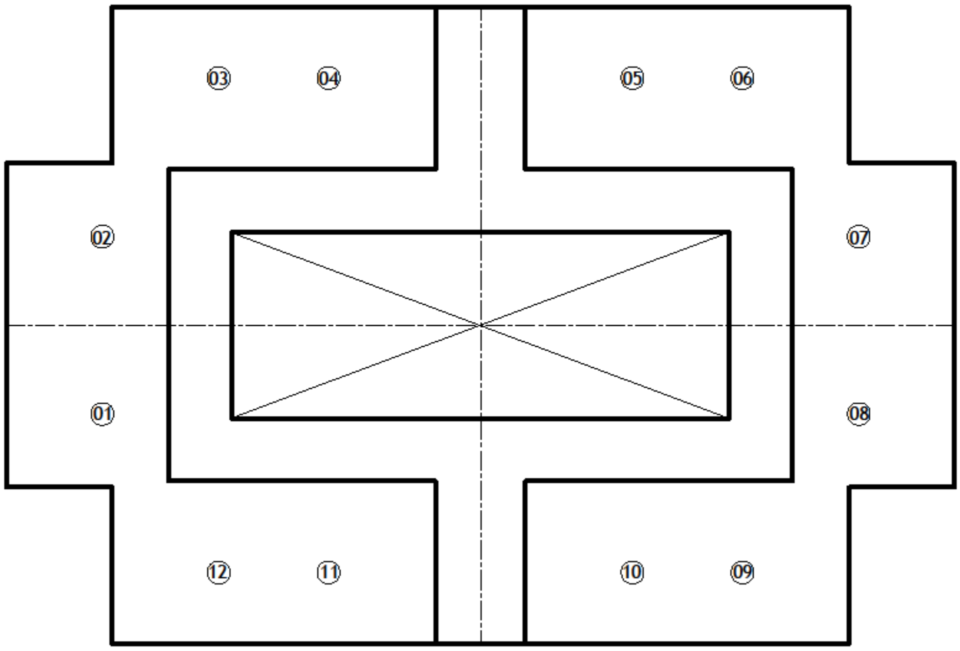
10C CLUSTER OF 04 UNITS



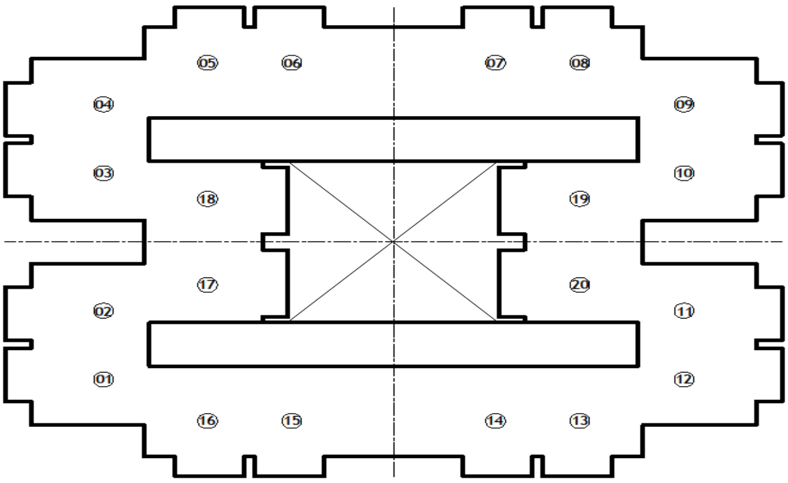
10D CLUSTER OF 06 UNITS



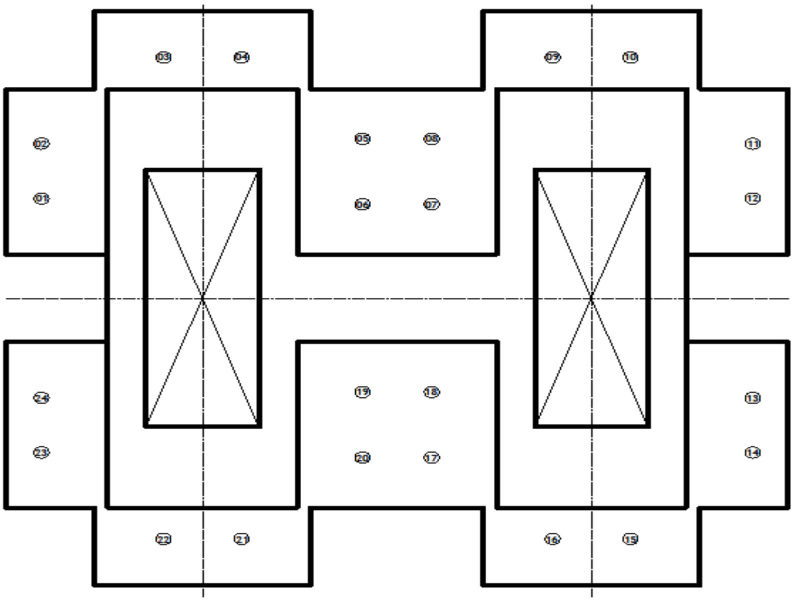
10E CLUSTER OF 08 UNITS



10F CLUSTER OF 12 UNITS



10G CLUSTER OF 20 UNITS



10H CLUSTER OF 24 UNITS

Fig. 10 Typical Plans of Cluster Planning Development

5 OTHER REQUIREMENTS

5.1 Requirements of Building Design

With the exception of clauses mentioned above, requirements of building will be governed by the provisions of SP 7 and IS 8888.

5.2 Requirements of fire safety, structural design, building services and plumbing services shall be as specified in SP 7.

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Planning, Housing and Prefabricated Construction Sectional Committee, CED 51

Organization	*Representative(s)*
In Personal Capacity (*Isavasyam TC 18/1023, B-8/2, Lakshmi Nagar, Kesavadasapuram, Pottam P.O, Thiruvananthapuram 695 004*)	Shri V. Suresh (***Chairman***)
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Biltech Building Element Ltd, New Delhi	Shri Rajdeep Chowdhury Shri D. V. Kulkarni (*Alternate*)
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Organization	*Representative(s)*
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Scientist 'D' (Civil Engineering), BIS

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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